

## ABSTRACT

A method for decoding a word received at a current time instant into a symbol of a trellis code. The trellis code corresponds to a trellis diagram having  $N$  states associated with the current time instant. Each of the  $N$  states corresponds to at least one incoming branch. Each of the incoming  
5 branches is associated with a symbol of the trellis code. The branch metrics are computed for the incoming branches such that a branch metric represents a distance between the received word and a symbol associated with the corresponding branch. The branch metric is represented by fewer bits than a squared Euclidian metric representation of the distance. For each of the  $N$  states, a node metric is computed based on corresponding branch metrics and one of the  
10 incoming branches associated with the state is selected. One of the  $N$  states is selected as an optimal state based on the node metrics. The symbol associated with the selected incoming branch corresponding to the optimal state is the decoded word.

CLV PAS561781.1-\* -04/21/04 3:12 PM